EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the changes and/or

additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR

1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the

payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with

Kellan Ponikiwicz on October 21, 2009. As a result, applicant sent the agreed amendment to

examiner on the same day.

The application has been amended as follows:

1. (Currently amended) A method for handling plug-and-play events occurring at a client, said
method comprising:

detecting a first event notification of a plug-and-play event generated by a plug-and-play
manager regarding a device in communication with a client communicating with a server over a
network using a presentation-level protocol, the first event notification comprising a globally
unique ID for the device, a vendor ID, a product ID, a device name, and an event type identifier;

intercepting said first event notification at an operating system abstraction layer prior to
receipt of the notification by an application or an operating system on the client;

redirecting said first event notification to the server from the client;

creating an association between (i) a virtual device in a user session on the server and (ii)
the device in communication with the client;

generating a second event notification of a plug-and-play event in the user session for the
virtual device, the second event notification including the created association;

receiving a command directed to the virtual device from an application executing in the
user session on the server and in response to the second event notification;

determining the command is directed to the device in communication with the client,
responsive to the created association;

forwarding the command to the client;

opening a virtual communication channel between the device in communication with the
client and the application executing in the user session on the server; and

receiving at the client via the virtual communication channel, in response to the
redirection of the first event notification, a command from the server, the command directed to
said device.

2. (Previously presented) The method of claim 1 wherein redirecting said first event notification
further comprises:

generating a context identifier, said context identifier representing a virtual COM port;

binding the context identifier to the event notification; and

transmitting the bound context identifier and event notification to the server.

3. (Previously presented) The method of claim 1 wherein redirecting said first event notification
includes redirecting said event notification via a virtual channel.

4. (Previously presented) The method of claim 1, wherein receiving a command from the server
further comprises:

receiving from a server a command including a generated context identifier;

identifying the device using the context identifier; and

issuing a command to the identified device.

5. (Previously presented) The method of claim 1 wherein said first event notification is generated
as a result of a device arrival.

6. (Original) The method of claim 5 wherein said command is an open command.

7. (Previously presented) The method of claim 1 wherein said first event notification is generated
as a result of a device removal.

8. (Original) The method of claim 7 wherein said command is a close command.

9. (Cancelled)

10. (Original) The method of claim 1 wherein the device in communication with the client uses one of the USB (Universal Serial Bus) protocol, IEEE 1394 protocol, Bluetooth protocol, wi-fi protocol, wireless protocol, and infrared (IR) protocol to communicate with the client.

11-13. (Cancelled).

14. (Currently amended) The method of claim 1 ~~11~~, further comprising: creating a server-unique name to identify the device connected to the client that generated the event notification, said server unique name used in mapping the ~~client~~ device to the server user ~~a specific~~ session ~~on the server established by the presentation level protocol~~.

15. (Currently amended) The method of claim 1 ~~11~~ wherein redirecting ~~notifying an application program~~ further comprises: transmitting the first event notification to applications communicating with the server ~~within the session~~.

16. (Currently amended) The method of claim 1 ~~11~~ wherein redirecting ~~notifying an application program~~ further comprises: transmitting the first event notification only to applications communicating with the server which have previously registered a callback for a type of event causing the first event notification.

17-23. (Cancelled).

24. (Previously presented) The method of claim 1 further comprising:
        emulating a plug-and-play event notification regarding a device in communication with the client.

25-27. (Cancelled)

28. (Previously presented) The method of claim 24 wherein the emulated event notification received from the client is received over a virtual channel.

29-67. (Cancelled)

68. (Previously presented) The method of claim 1 wherein detecting a first event notification comprises:

     detecting a first event notification of a plug-and-play event regarding a device communicating with the client via a USB connection on the client.

69-76. (Cancelled)

77. (Currently Amended) A system for handling plug-and-play events occurring at a client, said system comprising:

     a client communicating with a server over a network using a presentation-level protocol;

     means for detecting a first event notification of a plug-and-play event generated by a plug-and-play (PnP) manager regarding a device in communication with the a client communicating with a server over a network using a presentation-level protocol, the first event notification comprising a globally unique ID for the device, a vendor ID, a product ID, a device name, and an event type identifier;

     means for intercepting said first event notification at an operating system abstraction layer prior to receipt of the notification by an application or an operating system on the client;

     means for redirecting said first event notification to the server from the client;

     means for creating an association between (i) a virtual device in a user session on the server and (ii) the device in communication with the client;

     means for generating a second event notification of a plug-and-play event in the user session for the virtual device, the second event notification including the association;

     means for receiving a command directed to the virtual device from an application executing in the user session on the server and in response to the second event notification;

means for determining the command is directed to the device in communication with the client, responsive to the created association;

means for forwarding the command to the client;

means for opening a virtual communication channel between the device in communication with the client and the application executing in the user session on the server; and

means for receiving at the client via the virtual communication channel, in response to the redirection of the first event notification, a command from the server, the command directed to said device.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: None of the prior arts of record teach or suggest alone or in combination the redirection of event detection by communicating between the client and the server at the presentation-level two notifications one of which comprising a globally unique ID for the device, a vendor ID, a product ID, a device name, and an event type identifier, the other comprising an association between virtual device in a user session on the server and the device in communication with the client, and creating and using a virtual channel to send server commands to the device, in response to the redirection of the first event notification. None of the prior art of record teach or suggest the features above in combination with independent claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUA FAN whose telephone number is (571)270-5311. The examiner can normally be reached on M-F 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. F./   /KEVIN BATES/
Examiner, Art Unit 2456   Primary Examiner, Art Unit 2456